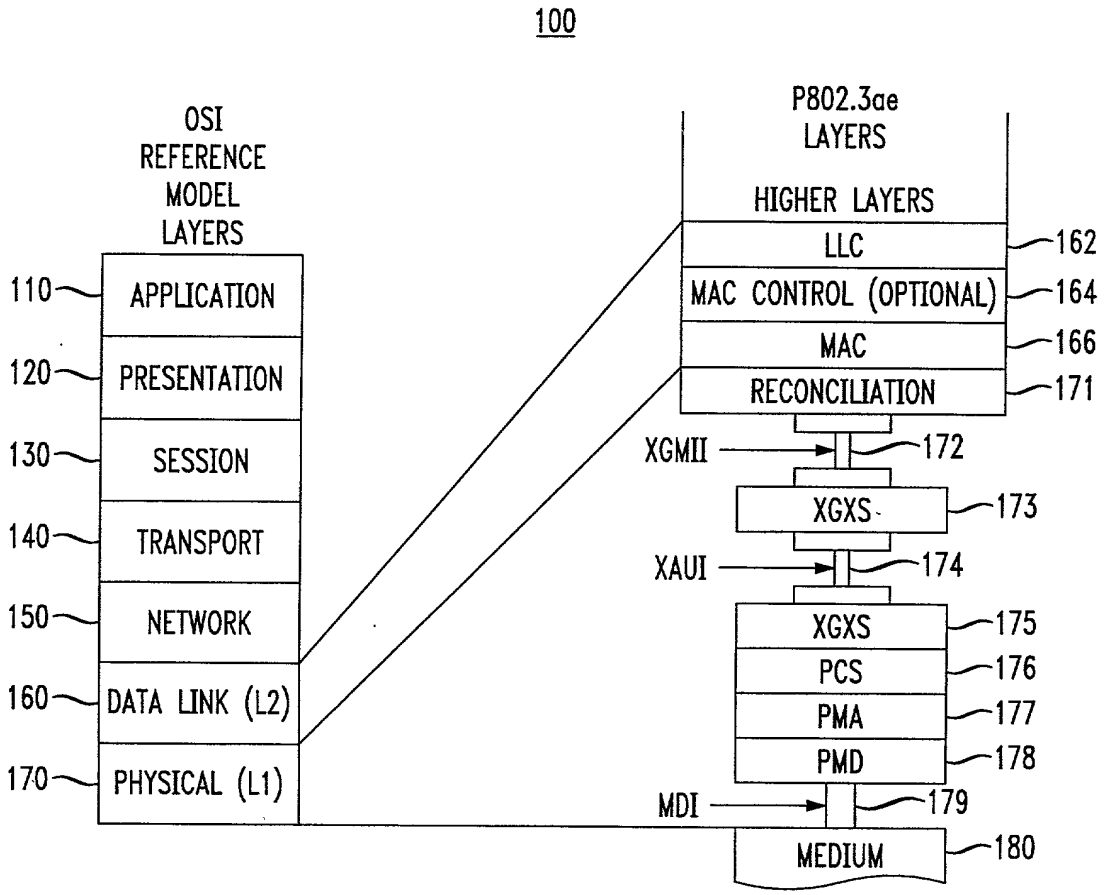
FIG. 1



MDI = MEDIA DEPENDENT INTERFACE
XGMII = 10 GIGABIT MEDIA INDEPENDENT INTERFACE
XAUI = 10 GIGABIT ATTACHMENT UNIT INTERFACE
PCS = PHYSICAL CODING SUBLAYER
XGXS = XGMII EXTENDER SUBLAYER
PMA = PHYSICAL MEDIA ATTACHMENT
PHY = PHYSICAL LAYER DEVICE
PMD = PHYSICAL MEDIA DEPENDENT

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FIG. 2

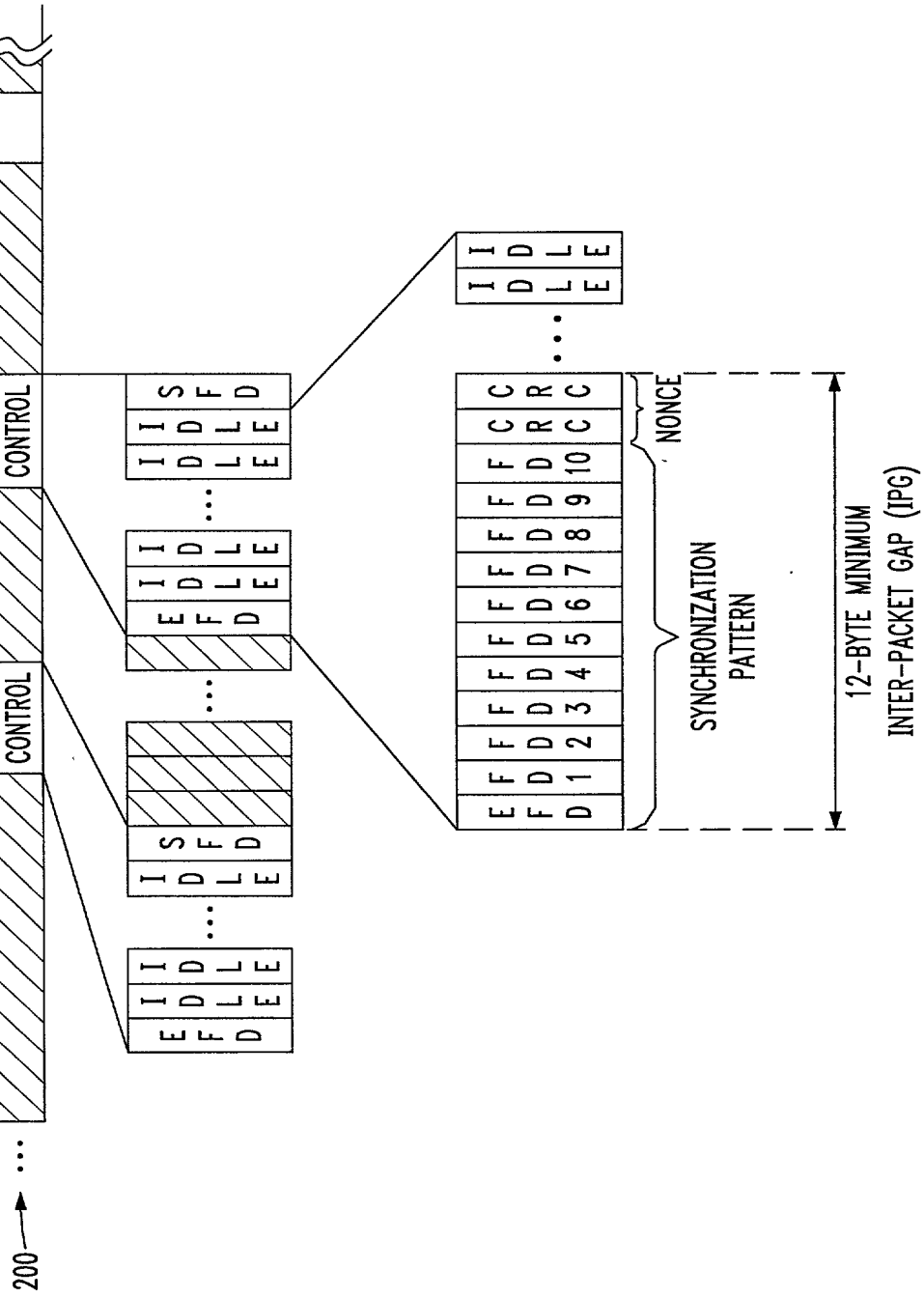
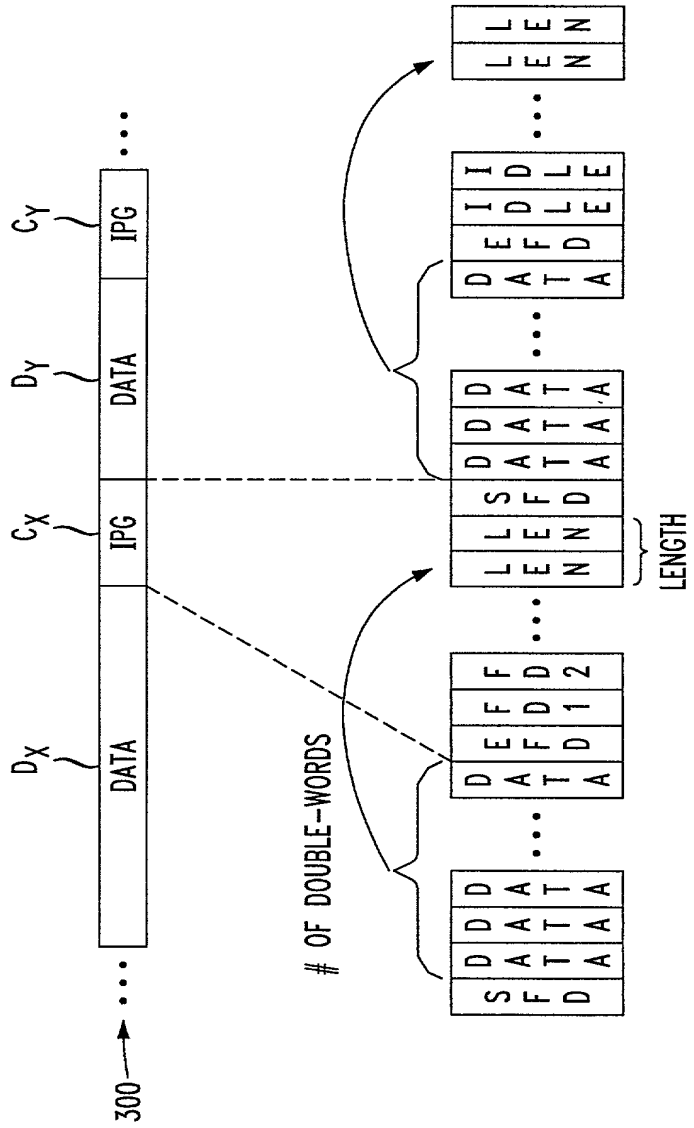

200
C_1
C_2
C_N
D_1
D_2
D_N
CONTROL
CONTROL
NONCE
SYNCHRONIZATION PATTERN
12-BYTE MINIMUM INTER-PACKET GAP (IPG)

FIG. 3



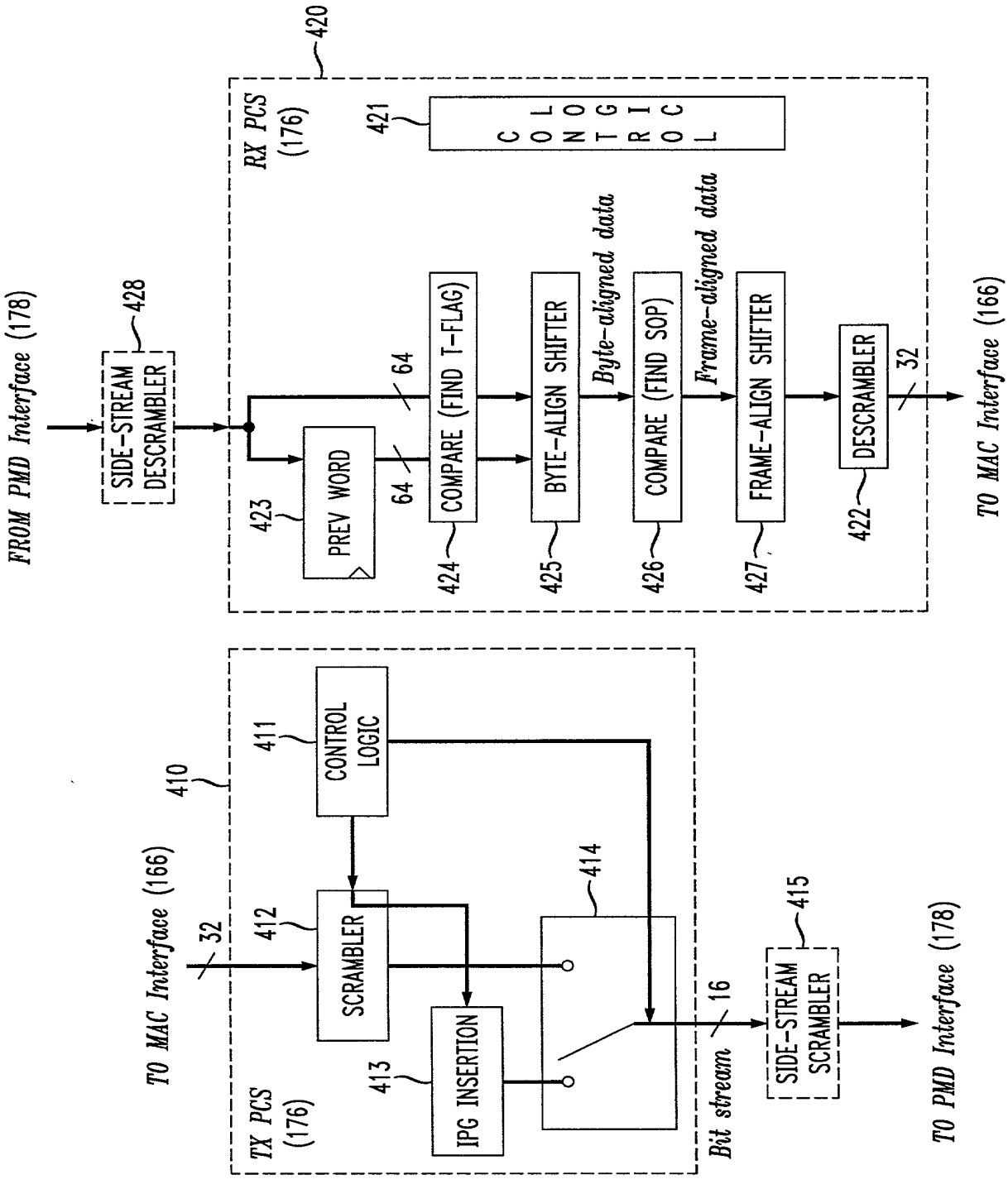
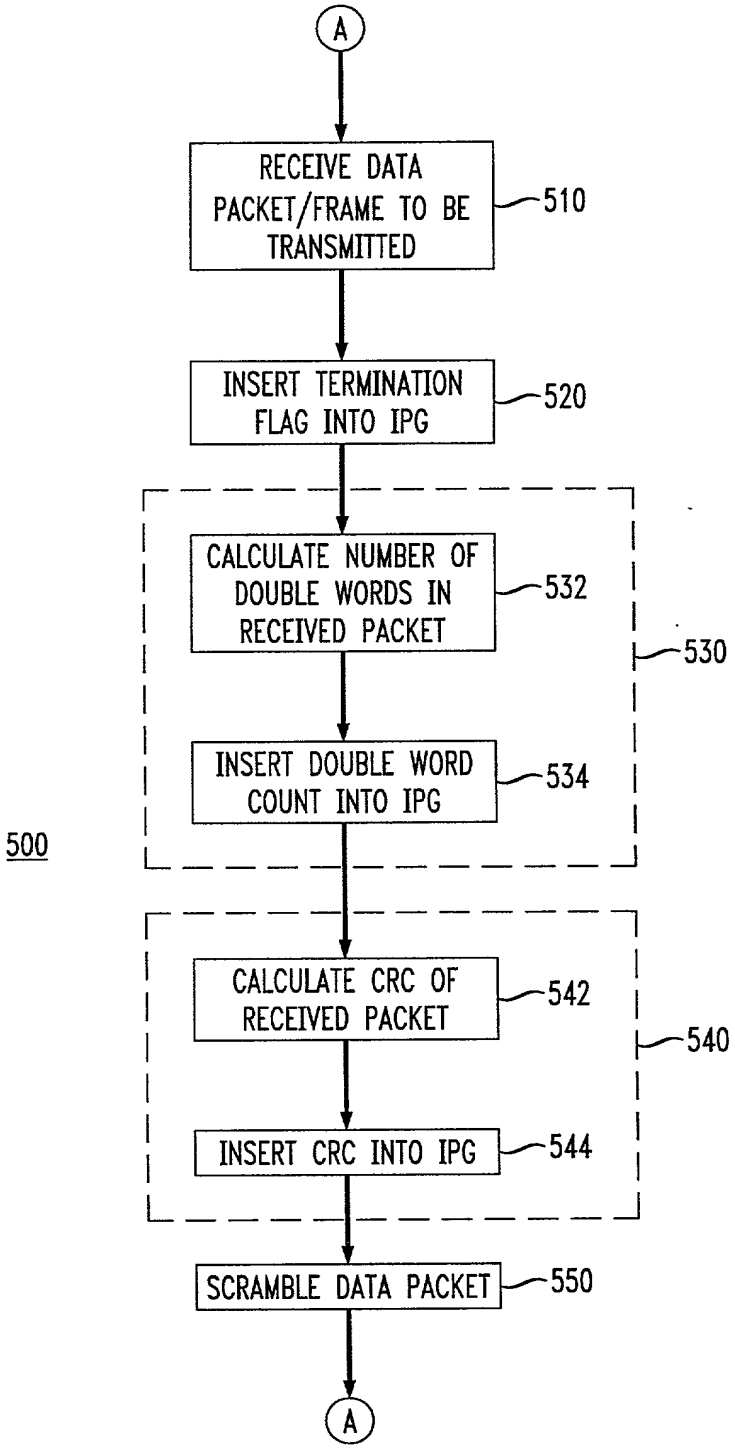

FROM PMD Interface (178)
SIDE-STREAM DESCRAMBLER
428
RX PCS (176)
420
421
COLNOTGRIOCL
423
PREV WORD
64
64
COMPARE (FIND T-FLAG)
424
BYTE-ALIGN SHIFTER
425
Byte-aligned data
COMPARE (FIND SOP)
426
Frame-aligned data
FRAME-ALIGN SHIFTER
427
DESCRAMBLER
422
32
TO MAC Interface (166)
TO MAC Interface (166)
32
TX PCS (176)
410
CONTROL LOGIC
411
SCRAMBLER
412
IPG INSERTION
413
414
Bit stream
16
SIDE-STREAM SCRAMBLER
415
TO PMD Interface (178)

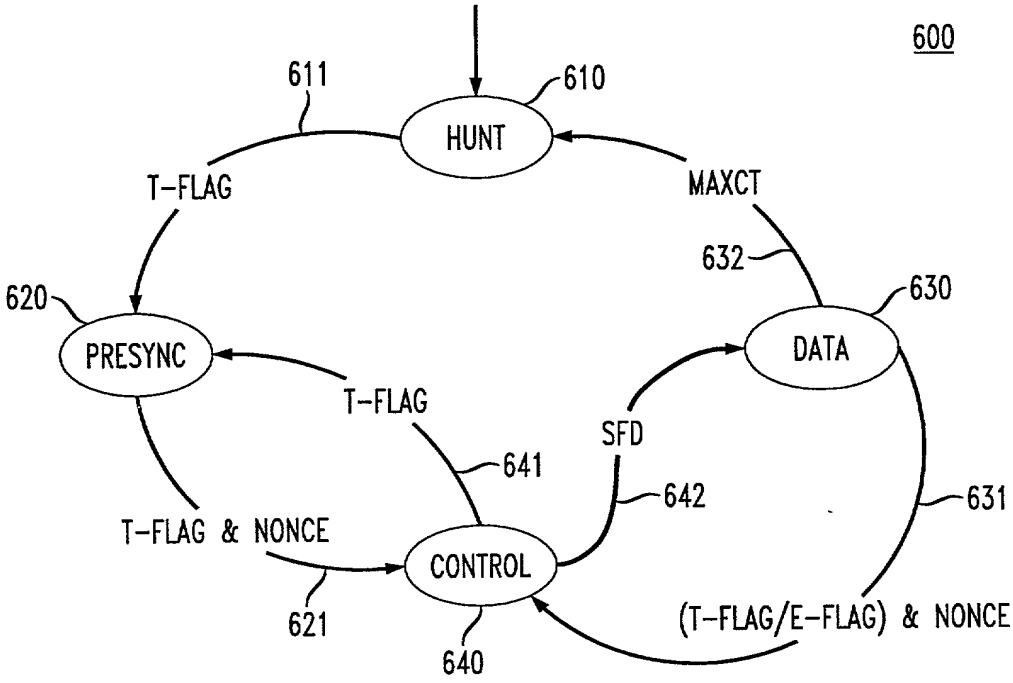
FIG. 4

FIG. 5



09/976,175 - 050401

FIG. 6



Hopson 5,764,650

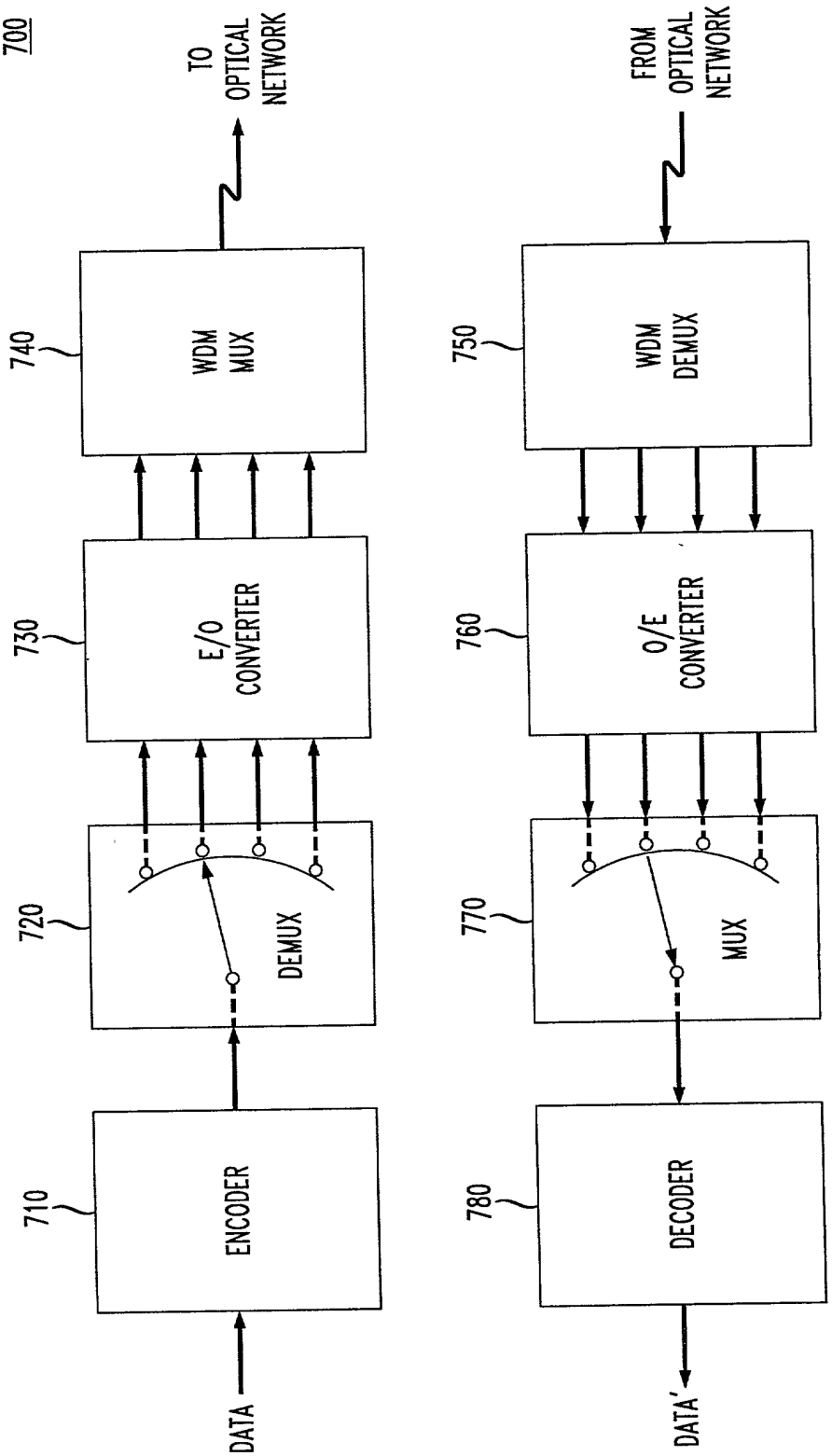

700
TO OPTICAL NETWORK
FROM OPTICAL NETWORK
740
WDM MUX
750
WDM DEMUX
730
E/O CONVERTER
760
O/E CONVERTER
720
DEMUX
770
MUX
710
ENCODER
780
DECODER
DATA
DATA'

FIG. 7

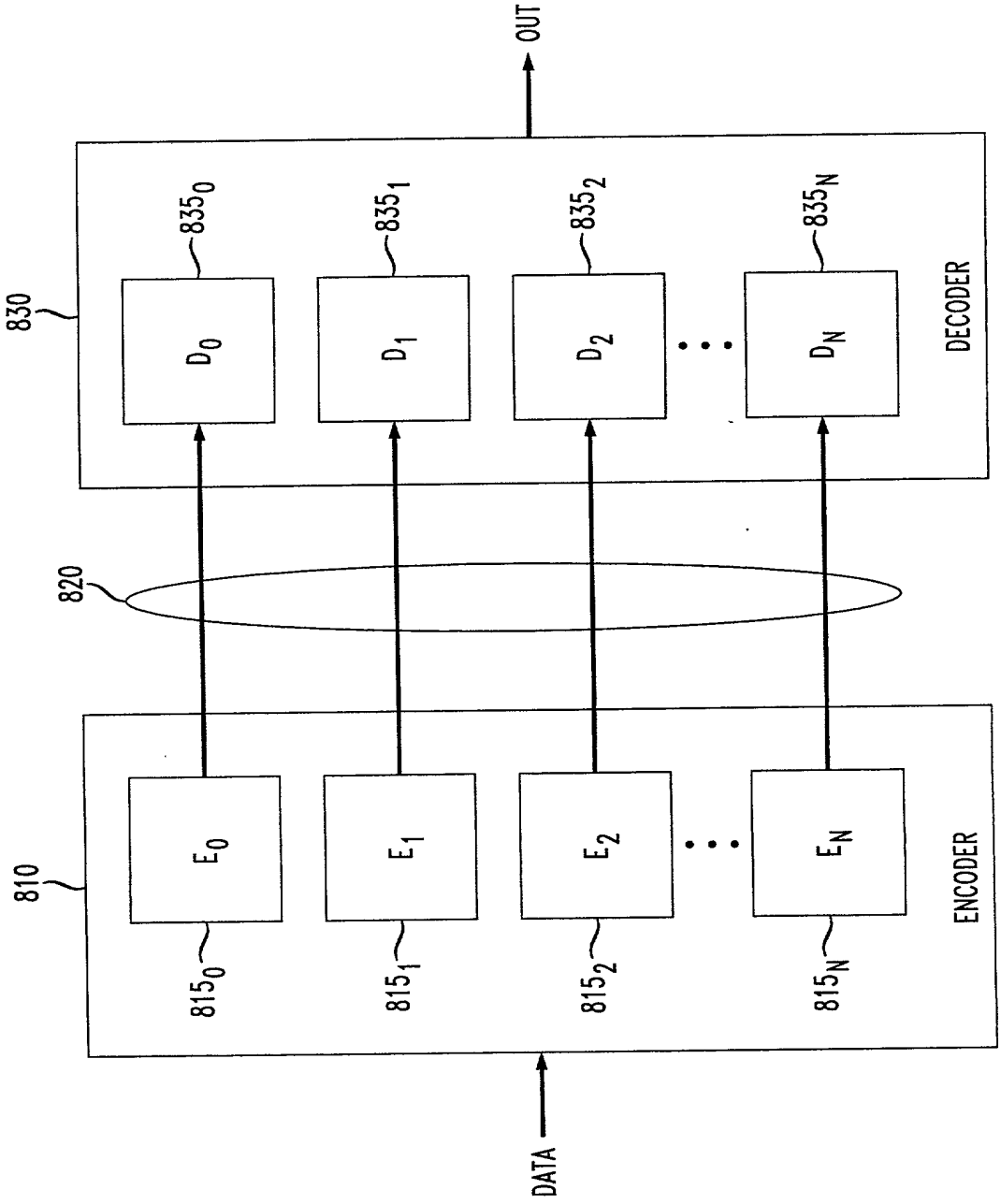

800
OUT
830
835_0
835_1
835_2
835_N
D_0
D_1
D_2
D_N
DECODER
820
810
E_0
E_1
E_2
E_N
ENCODER
815_0
815_1
815_2
815_N
DATA

FIG. 8